

X-90 / GELA - AS-X-21

DATA FOR 2012 (standard update)

Missile X-90 / B-239 - AS-X-21

Missile GELA

★★★★

Long-range hypersonic cruise missile (project) / hypersonic experimental aircraft (GELA). The Kh-90 missile was developed by the Raduga Design Bureau (Dubna) jointly with TsAGI in the 1980s to replace the Kh-55 CRBD in service with Long-Range Aviation. General Designer - I.S. Seleznev. The development was a continuation of the work on creating a hypersonic missile, which began at the Raduga Design Bureau in the early 1970s with the creation of the Model 1 (tested in 1973-1978) and Model 2 (1980-1985) hypersonic prototypes. Preparation for production and production of missiles on the B-239 theme by the Raduga Design Bureau began in 1986 at the Tushino Machine-Building Plant. In addition to several technological and design prototypes of the B-239, three flight prototypes of the missile were built. We have no information about successful flight tests of the Kh-90.

Based on the Kh-90 missile project, an experimental hypersonic vehicle, the GELA, was created and allegedly tested in the late 1980s and early 1990s ([source](#)). According to unconfirmed information from TV programs, the first flight tests of either the Kh-90 or GELA prototype took place at the Engels airbase in early December 1987. Bench tests of the SPVRD for the GELA, designed for a cruising speed of 4.5M, were successfully completed in October 1988. Work on the Kh-90 project was stopped in 1992. The GELA vehicle was first demonstrated to the public at the MAKS-1995 air show in Ramenskoye.

When describing the Kh-90/GELA missile in various media and other sources (including well-deserved ones), confusion often arises with the [Meteorite cruise missile - AS-X-19 KOALA](#). Accordingly, the Kh-90 missile is sometimes mistakenly attributed with some incorrect performance characteristics, chronology, etc. information. One of the reasons for the confusion is the identical aerodynamic schemes of the two missiles and the chronological proximity of the work on them.



The hypersonic experimental aircraft GELA on display at the MAKS-1995 air show (<http://vnfawing.com/> , processed).

Author: [DIMMI](#)

Created: 02.10.2012 14:49:09

Comments: [22](#)[READ THE FULL ARTICLE](#) →BrahMos-M / BrahMos-M (project)

DATA FOR 2014 (standard update)

BrahMos-M / BrahMos-Mini / BrahMos-M rocket

★★★★

Anti-ship cruise missile / cruise missile for firing at ground targets. A smaller-sized modification of the [BrahMos](#) missile for placement on various launch platforms - primarily on aircraft carriers. Development was started by the joint Russian-Indian venture "BrahMos Aerospace Pvt. Ltd." (established on 12.02.1998) according to media [information](#) from February 4, 2014. The first launch of the missile is planned for 2017.

Catalog of military equip

AIR

- Bombers/Strike Aircraft
- Fighters
- Transport aircraft
- Special and training aircraft
- Helicopters
- UAV
- Air-to-air missiles
- Air-to-ground missiles

- KS-1 Comet - AS-1 KENN
- K-10 - AS-2 KIPPER
- K-12V
- X-8
- K-20 - AS-3 KANGAROO
- K-22, X-22 missile - AS-4
- K-16 / K-11 - AS-5 KELT
- X-61 / M-61
- K-26 - AS-6 KINGFISH
- K-30, Kh-30/Kh-33 missile
- X-66 / X-23 - AS-7 KERRY
- AS-8 (Shturm-V)
- X-28 - AS-9 KYLE
- X-27 / X-25P - AS-12 KEC
- X-25 - AS-10 KAREN
- S-25L / S-25LD
- NIR Echo
- X-45 Lightning
- X-55 / X-65 / X-555 - AS-1
- X-31 - AS-17 KRYPTON
- X-59 Gadfly - AS-13 KING
- X-15 - AS-16 KICKBACK
- X-80 Meteorite-A - AS-X-1
- Kh-59M / Kh-59MK Ovod-KAZOO
- X-35 - AS-20 KAYAK
- X-90 / GELA - AS-X-21
- X-101 / X-102 - AS-23 KO
- X-32/9-A-2362
- BrahMos / BrahMos
- 9-A-7660 Dagger / 9-C-77292
- X-59MK2
- LMUR product 305
- Zircon / Zircon-S
- X-50 / product 715 / 9-A-5
- KTRV hypersonic missile
- BrahMos-II / BrahMos-II (p
- BrahMos-M / BrahMos-M
- Prospective long-range cr
- Kh-BD (project)
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Models of BrahMos and BrahMos-M missiles at the DefExpo-2014 exhibition, 07.02.2014 (<http://defense-update.com/>).

Author: [DIMMI](#)

Created: 04.02.2014 23:56:08

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K-30 system, Kh-30/Kh-33 missiles

DATA AS OF 2013 (in progress)

K-30 system, Kh-30 / Kh-31 / KhB-32 / Kh-33 missiles Project of a strike aircraft missile system with different types of missiles and the T-4 carrier aircraft (aircraft "100") of the P.O. Sukhoi Design Bureau. The K-30 system included the following types of missiles (at different times): - Kh-30 - anti-ship cruise missile (first version of the system design, 1962); - Kh-31 - long-range cruise missile (first version of the system design, 1962); - KhB-32 - air-launched ballistic missile (first version of the system design, 1962); - Kh-33 - long-range aeroballistic cruise missile (version of the system design, 1963); In January 1962, the T-4 aircraft project with the K-30 strike missile system was approved by the State Committee on Aviation Industry (the competition also included projects by the A.N. Tupolev Design Bureau - the "135" aircraft - and A.S. Yakovlev - the "33" aircraft). On January 27, 1962, in a letter to D.F. Ustinov, the head of the Ministry of Aviation Industry P.V. Dementyev proposed a draft Resolution on the start of full-scale development of the T-4 aircraft in three versions: T-4A - reconnaissance, T-4B - jammer and T-4 - carrier of the K-30 strike system, which was to include the Kh-30 and Kh-31 missiles. The development of the Kh-30 missile and the K-30 system as a whole was planned to be assigned to OKB-51 of P.O. Sukhoi, with the missile scheduled to begin flight tests in the first quarter of 1965 and the start of system tests in the fourth quarter of 1965. At the same time, it was proposed to begin development of the Kh-31 (cruise) and KhB-32 (airborne ballistic) missiles by the Lavochkin Plant Design Bureau (General Designer M.M. Pashinin) according to the technical specifications of the K-30 system (OKB-51). Flight tests of the Kh-31 missile were supposed to begin in the first quarter of 1965, and the preliminary design for the aeroballistic missile was planned to be completed by January 1965. The design of the Kh-30 missile was started in early 1962 under the supervision of N.S. Chernyakov in the P.O. Sukhoi Design Bureau as the main armament of the T-4 aircraft (aircraft "100") of the P.O. Sukhoi Design Bureau. Two versions of the missile with different tail units were developed. A 1:12.5 scale model was made, which was blown through the TsAGI T-113 wind tunnel. In 1963, the development of the Kh-30 missile was discontinued. The groundwork for the Kh-30 missile was used in the development of the Kh-33 missile, which was started in the same 1963. The development of the Kh-33 missile was carried out in OKB-51 by designers I.O. Melts, V.P. Sopin, Yu.V. Troelnikov, V.V. Piskov and E.V. Litarev, headed by N.S. Chernyakov.

★★★



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	139,855		39,477
	137,574		34,648
	123,546		32,275
	84,776		28,245
	71,415		27,497
	62,146		25,074

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[Grom / Sapsan / Grom-2 \(proj Ukraine\)](#)

Dima, have you tried to contact Diana on the topic? - I think she (h has...

[Sierra](#) 2016-12-13 15:10

[Grom / Sapsan / Grom-2 \(proj Ukraine\)](#)

Another great one on the topic... What do they smoke in Ukraine?! :crazy: <http://inosmi.ru...>

[Sierra](#) 2016-11-07 15:09

[Grom / Sapsan / Grom-2 \(proj Ukraine\)](#)

Awesome interview about the Grom OTRK, announced by Ukraine as a replacement for the Sapsan. Something...

[Sierra](#) 2016-11-05 21:47

[Grom / Sapsan / Grom-2 \(proj Ukraine\)](#)

hisgloves Wrote: I wonder if at least this news will cool the ardor of another post-Soviet...

[DIMMI](#) 2013-06-27 21:27

[Grom / Sapsan / Grom-2 \(proj Ukraine\)](#)

I wonder if at least this news will cool the ardor of another post-Soviet "power"...

[hisgloves](#) 2013-06-27 13:31

[Grom / Sapsan / Grom-2 \(proj Ukraine\)](#)

The development of the Sapsan complex has been terminated

[DIMMI](#) 2013-06-27 01:41

[Grom / Sapsan / Grom-2 \(proj Ukraine\)](#)

Exactly so

[DIMMI](#) 2012-02-05 11:14

[Grom / Sapsan / Grom-2 \(proj Ukraine\)](#)

[DIMMI](#) Wrote: there was also a picture a la Pershing[img][img] <http://bmpd.livejournal.com/15734>

[Mikhael](#) 2012-02-05 10:57

[Grom / Sapsan / Grom-2 \(proj Ukraine\)](#)

there was also a picture a la Pershing

[DIMMI](#) 2012-02-05 03:18

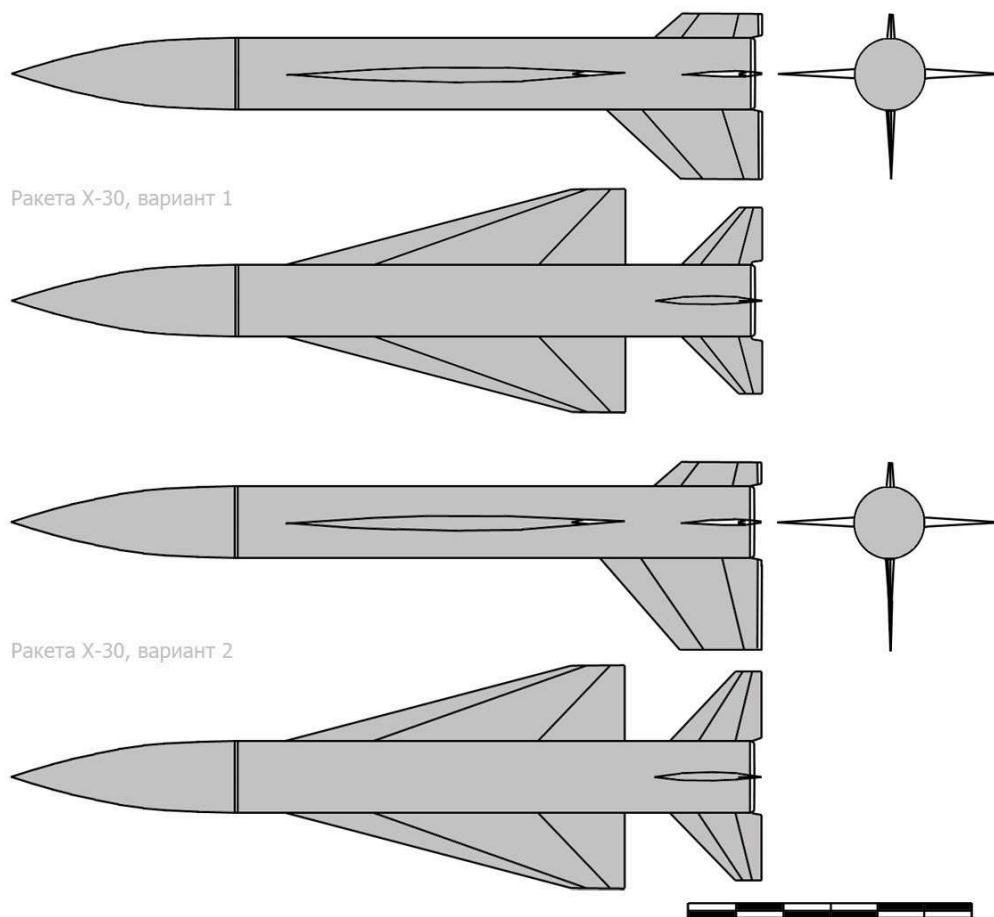
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[img]



Models of the Kh-30 or Kh-33 missile under the wing of the T-4 aircraft model of the P.O. Sukhoi Design Bureau, 1966 (<http://forums.airbase.ru> , processed).

<http://militaryrussia.ru> (c) 15.12.2013



Projections of Kh-30 missile variants (<http://militaryrussia.ru> based on a drawing by Nikolai Gordyukov).

Author: [DIMMI](#)

Created: 19.02.2009 00:11:20

Comments: 4

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X-32/9-A-2362

DATA FOR 2013 (in progress)

Missile X-32 / 9-A-2362



Air-launched cruise missile / anti-ship missile / anti-radar missile. Development of an updated missile based on and as a replacement for the Kh-22 missile - AS-4 KITCHEN was started by the Raduga Design Bureau in the 1980s. The missile is similar to the prototype, but is equipped with electronic systems implemented on a new element base.

In the late 1980s, a missile complex with Kh-32 missiles was delivered to the 929th State Flight Test Center (Akhtubinsk) for testing ([source](#)).

As of 2004, production of Kh-32 missiles was supposed to begin in 2005. Production was to be deployed at the Dubna Machine-Building Plant. At the latest - in 2007 - production of missiles in Dubna was started ([source](#)). According to the contract for the production of the experimental batch of Kh-32 missiles, the Raduga Design Bureau was to produce three experimental articles 9-A-2362 by 25.11.2009, which was not done within the established deadline. It was planned to conduct preliminary ground and flight tests. The tests were supposed to be carried out using the [Tu-22M3M](#) carrier aircraft (Adaptation-45.03M R&D / object 45-03M, [source](#)). On 27 March 2008, contract No. 83042 was signed with the Raduga State Design Bureau for the Sonetka R&D to conduct experimental models of the 9-A-2362 missiles with the TK-56 warhead on [the Tu-22M3M / 45-03M](#)

carrier by 25.11.2011 . However, the supplement to the technical specifications for equipping the 45-03M object with the 9-A-2362 product with block 56 was only completed in June 2010, which led to the failure to schedule the start of joint testing. On 01.01.2011, due to the expiration of the State Contract of 27.03.2008 and the absence of a decision from the customer to carry out the work, work on the Sonetka project at JSC GosMKB Raduga was suspended ([source](#)). Based on the Resolution of the Council of Ministers of the Russian Federation No. 1080-31 of December 2010 on the State Defense Order for 2011 and its planned period of 2012 and 2013, the Tu-22M aircraft, tail No. 9804 / s / n 4898649, as part of the modernization of the Tu-22M3 fleet, was re-equipped by the experimental production of the A.N. Tupolev Design Bureau (ROC "Potential") for testing air-to-ground missiles 9-A-2362. The aircraft is equipped with special measuring equipment ([source](#)). The next stage of testing of the Tu-22M3 aircraft / tail No. 9804 / s / n 4898649 in Ramenskoye with Kh-32 missiles was conducted at the end of July 2013. Several flights were performed, including at least one flight with missile launches.



Presumably, the photo shows the Kh-32/9-A-2362 missile. Test flight of the Tu-22M3 aircraft, board No. 9804, Ramenskoye, summer-fall 2013 (fragment of a photo by Sergei Lysenko, <http://russianplanes.net/id121764>).



Presumably, the photo shows the Kh-32/9-A-2362 missile. Test flight of the Tu-22M3 aircraft, board No. 9804, Ramenskoye, 26.07.2013 (fragment of a photo by Vitaly Yurtaev, <http://russianplanes.net/id114329>).



Presumably, the photo shows the Kh-32/9-A-2362 missile. Test flight of the Tu-22M3 aircraft, flight number 9804, Ramenskoye, 26.07.2013 (fragment of photo by Mikhail Polyakov, <http://russianplanes.net> via <http://defence.pk>).

Author: [DIMMI](#)

Created: 26.07.2013 15:40:22

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About the production of engines for cruise missiles and engine building

On July 8, 2013, a press conference was held in Moscow at the Interfax news agency dedicated to the conclusion of a contract between NPO Saturn and GosMKB Raduga for the production of small-sized TRDD-50 engines for strategic cruise missiles. This is the second contract between NPO Saturn and GosMKB. We present a brief summary of the factual materials on cruise missiles and related areas.

The first serial deliveries of engines for UAVs manufactured by JSC NPO Saturn in the interests of JSC GosMKB Raduga named after A. Ya. Berezhnyak began in 2008. The volume of the first contract for deliveries from 2008 to 2010 was less than 1 billion rubles. Then there was a contract in 2011 for the period from 2011 to 2015. The current contract was signed on July 5, 2013 for engines for cruise missiles for the amount of over 4 billion rubles and will be valid from 2013 to 2015. Relative to the production volumes of 2010-2012, the production program for 2013-2015 has increased by 3.5 times.

During the development of the Kh-55 cruise missile, two different engines were created for the missile - the TRDD-50 of the Omsk Design Bureau and the R-95-300 of the MNPO Soyuz. By decision of the chief designer of the Kh-55 cruise missile, Igor Seleznev, the choice was made in favor of the R-95-300 engine. The chief designer of the engine is Oleg Favorsky. Serial production of the engine was launched in Zaporozhye, Ukraine. The engine was produced in large series - in some years the production volume reached 1,500 units. R-95-300 were used on the Kh-55 and Kh-55SM cruise missiles. The engine was also used by the Novator Design Bureau on its naval missiles. After the collapse of the USSR (let me remind you - this happened in 1991), Russian President Boris Nikolayevich Yeltsin set the task of import substitution for engines for strategic cruise missiles. Then, the Rybinsk Engine Plant began to master the serial production of TRDD-50 engines developed in Omsk. At the moment, the import substitution program has been successfully completed and only Russian-made engines are used on strategic cruise missiles.

There are two options - TRDD-50A - an aviation version and TRDD-50B - a naval version. Engines for aircraft cruise missiles (TRDD-50A) are currently manufactured by NPO Saturn, while production and testing of the engine variant for sea cruise missiles (TRDD-50B) is still carried out by the Omsk Design Bureau. It should also be noted that the Omsk Engine Design Bureau has now effectively become a part of NPO Saturn as a branch.



An engine variant for the MKB Raduga cruise missile with a pylon installation - a small-sized TRDD-50AT engine ("product 36MT") developed and produced by OMKB, MAKS-2005 exhibition (photo - Evgeny Erokhin, <http://www.missiles.ru>).

Author: [DIMMI](#)

Created: 14.07.2013 01:12:16

Comments: [2](#)

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X-28 - AS-9 KYLE

DATA FOR 2013 (standard update)

K-28P complex, Kh-28 missile / product 93 / product D-8 "Nakhodka" - AS-9 KYLE

★★★

Medium-range anti-radar missile. Development of the K-28P anti-radar strike complex with the Yak-28N carrier aircraft and Kh-28 missiles was started by the Decree of the USSR Council of Ministers of January 10, 1963. The main developer of the complex was OKB-115 A.S. Yakovlev, the development of the missile was carried out by OKB-155-2 (MKB "Raduga"), the chief designer was A.Ya. Berezhnyak. According to the Decree on the design of the missile, it was planned to launch the K-28P complex for joint flight tests in the 2nd-3rd quarters of 1965. At the end of 1964, at the suggestion of the Ministry of Aviation Industry, a decision was made to replace the solid propellant rocket motor on the Kh-28 missile with a liquid propellant rocket engine - the reasons were the mastery of the liquid propellant rocket engine technology on missiles of this class, the guaranteed achievement of a range of 120 km, necessary for the destruction of the Nike-Hercules SAM positions without entering their destruction zone. The replacement of the engine delayed the start of testing until 1966. When examining the preliminary design of the Yak-28N carrier aircraft, it turned out that, according to the results of calculations and blowdowns, when launching the first Kh-28 missile from under the wing of the aircraft and keeping the second missile under the other wing, the Yak-28N aircraft lost stability in roll due to insufficient efficiency of the ailerons. The preliminary design of the complex was not accepted by the Customer ([source](#)).

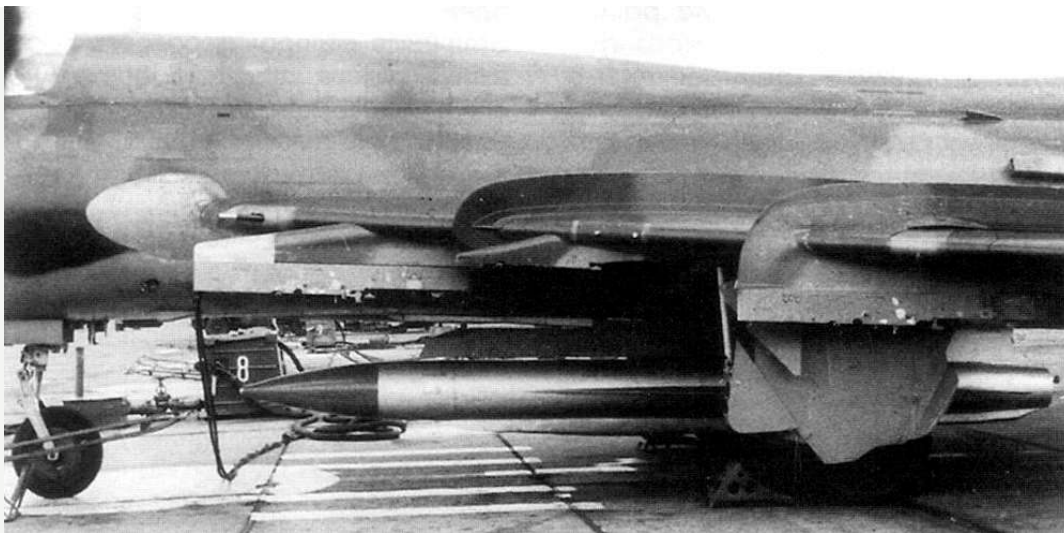
Subsequently, the Yak-28N prototype aircraft was nevertheless built and used to practice launches. The target reconnaissance station equipment was to be placed in place of the Initiative radar, with a pair of horn-like antennas installed near the leading edge of the right engine. The An-12BK flying laboratory aircraft was also used to test the system's equipment. The results of testing the Kh-28 missile from these aircraft were later used to develop the Kh-58 missile. Testing of the Yak-28N prototype carrier aircraft began in 1966, and in 1967, testing of the system's equipment began on it. The first Kh-28 missile launches from the Yak-28N were made in 1969. However, the aircraft was not put into serial production.



Preparing the X-28 missile for suspension under the Su-22 of the Vietnamese Air Force (<http://militarynuts.com>).



Training missile Kh-28 (Wings of the Motherland, early 1990s).



Missile Kh-28 under Su-17M3 (Markovskiy V., Prikhodchenko I. Fighter-bomber Su-17. // Aviation and Cosmonautics. N 05 / 2012 via <http://crimso.msk.ru>).

Author: [DIMMI](#)

Created: 19.02.2009 00:42:00

Comments: [15](#)

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K-10 - AS-2 KIPPER

DATA FOR 2013 (standard update)

K-10EN "Kometa-10" complex, K-10S missile - AS-2 KIPPER

★★★★

Anti-ship cruise missile. Developed by the decree of the USSR Council of Ministers dated February 3, 1955 in OKB-155 (Mikoyan and Gurevich), chief designer M.I. Gurevich. The technical requirements for the K-10 ("Kometa-10") system were formulated on November 16, 1955 - the system was developed by OKB-256 (A.N. Tupolev). According to the technical requirements, the first aircraft carrier of the system - the Tu-16K-10 - was to be presented for testing on March 1, 1957. The first K-10S missile was released by OKB-155 in October 1957, the pilot batch was produced by Plant No. 256 near Moscow. The first flight of the experimental Tu-16K-10 (No. 7203805) was on January 4, 1958. During the testing and debugging of the K-10S missile equipment, flying laboratories based on the Li-2 and Mi-4 equipped with a seeker head, as well as an SM-K analogue aircraft (a modification of the MiG-19) were used. The first launch of the missile in a throwable version was on May 28, 1958. Tests of the K-10S missile were conducted at the Vladimirovka test site (Tu-16K-10 of Lieutenant Colonel V.V. Zentsov) - by the end of 1958, 5 launches were performed at a range of up to 96 km, in 1959 another 12 launches, but only 6 launches were considered successful.



K-10S - AS-2 KIPPER missile under Tu-16. Photo taken from a Norwegian Air Force F-16 fighter, 1980s (photo - Norwegian MoD via Bernard Duncan Lyng, from the archive of Graham Summers, <http://www.facebook.com/FlyingHighwithRedStars>).



Projections of K-10 (drawing by I. Prikhodchenko, from the article by Markovsky V., Perov K. Aircraft cruise missiles. // Aviation and Cosmonautics. N 10 / 2005)

Author: [DIMMI](#)

Created: 25.01.2009 15:23:02

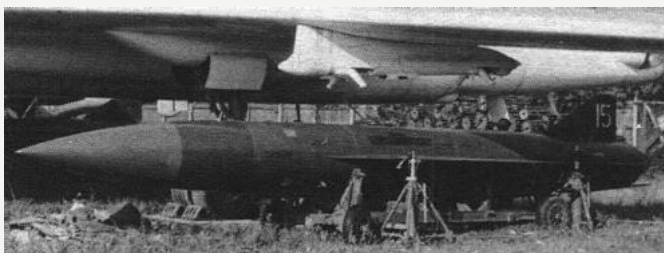
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K-26 (AS-6 KINGFISH)

K-26 complex, KSR-5 missile (KSR-5M, KSR-5P) - AS-6 KINGFISH

Cruise missile, Designed as a replacement for [the AS-4](#) . R&D - 1962. Adoption - 1967.



AS-6 missile (Lectvi + Kosmonautika. N 25/1989, Czechoslovakia)

Author: [DIMMI](#)

Created: 17.02.2009 01:14:12

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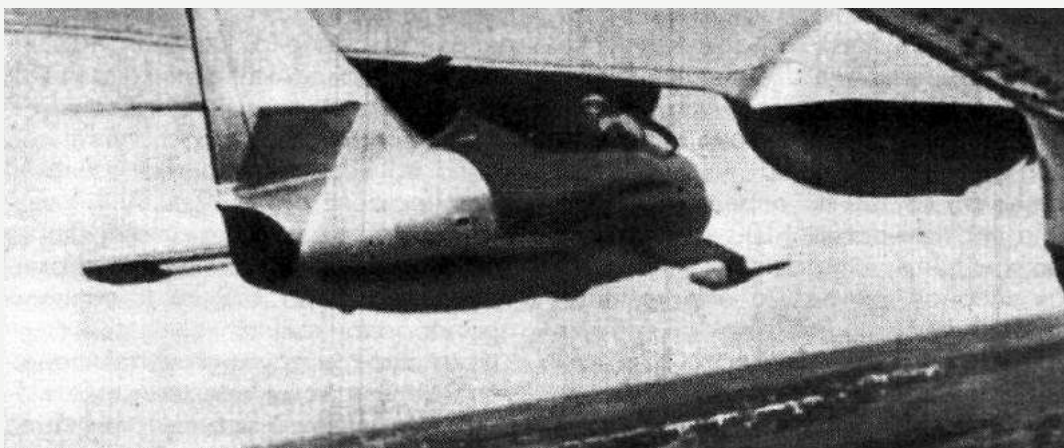
KS-1 Comet - AS-1 KENNEL

DATA AS OF 1997 (requires updating)

Missile K / KS / KS-1 "Kometa-Snaryad" / 4K87 - AS-1 KENNEL

★★★★

An anti-ship cruise missile, developed by the MiG Design Bureau (later OKB-155, now MKB Raduga) jointly with KB-1 (formerly SB-1, P.N. Kuksenko and S.L. Beria - R & D of the complex) under the supervision of A.Ya. Berezhnyak and M.I. Gurevich. R & D - since 1947 (according to Government Resolution No. 3140-1028 of September 8, 1947), government resolution on the start of work - March 25, 1949, the first flight of the manned prototype K ("Kometa", a total of four copies were built - K-1, K-2, K-3 and K-4) - January 4, 1951 (test pilot Amet-khan Sultan). The first flight of the K prototype from under the carrier aircraft (Tu-4K) was in May 1951, the first launch of the KS-1 from under the Tu-4K was in the spring of 1952, and state acceptance was on November 21, 1952 (launched at the Krasny Kavkaz cruiser). Adoption by the Navy aviation with the Tu-4K carrier (Tu-4KS) was in 1953. Testing of the complex with the Tu-16KS began in August 1954. Adoption into service was in 1955. In 1956-57, a number of measures were taken to improve the missile's performance characteristics.



Manned prototype of the KS-1-K rocket under the wing of the Tu-4K (Kazmin V. "The Comet" is almost invisible // Wings of the Motherland No. 6 / 1991)

Cruise missiles KS-1 under Tu-4K (<http://crimso.msk.ru>).Author: [DIMMI](#)

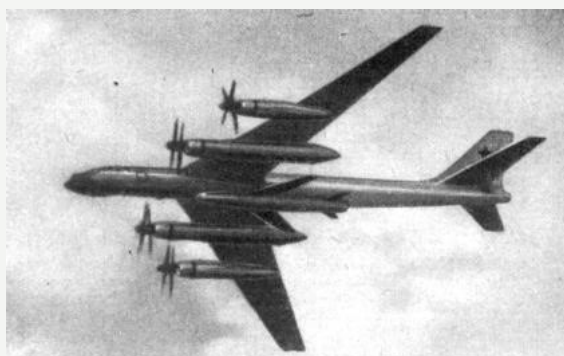
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X-20 (AS-3 KANGAROO)

K-20 complex (Tu-95K-20), Kh-20 / Kh-20M missile - AS-3 KANGAROO

Cruise missile. Developed by the MiG Design Bureau for the Tu-95K-20 complex, chief designer M. Gurevich. R&D of the complex began in March 1955. All systems of the missile complex (Kh-20) were tested on a modified MiG-19 (SM-20) launched from a Tu-95 carrier aircraft in a manned version. The complex was accepted into service in the fall of 1959.



X-20 under Tu-95K (Astashenkov, Soviet Missile Forces. // M., 1967)

Author: [DIMMI](#)

Created: 26.01.2009 00:26:29

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X-27 / X-25P (AS-12 KEGLER)

X-27 / X-27PS - AS-12 KEGLER

X-25P

X-25MP (product 711?) / X-25MPU

Anti-radar missile. Adopted in 1974 (Kh-27), in 1978 the Kh-27PS was adopted. Replaced [the AS-9](#) . The Kh-27 was intended to arm the MiG-23BK. Developed and produced at GNPO Zvezda-Strela. The Kh-25MP was adopted into service until 1987. The Kh-25MPU missile was developed specifically for use against the Crotale and Roland air defense systems. The missiles are used from the APU-68UM3 launcher. Kh-25MP data (default).



The Kh-25MP missile at the Mosaeroshow-92 stand

Author: [DIMMI](#)

Created: 19.02.2009 00:46:44

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X-25 (AS-10 KAREN)

X-25R - AS-10 KAREN

X-25L (product 69?)

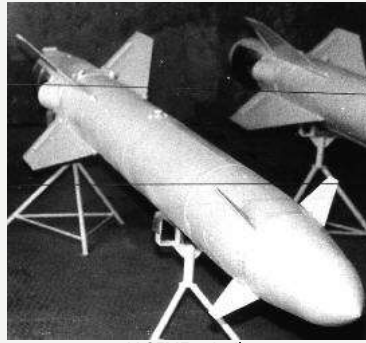
X-25MR

X-25ML

X-25MTPL

An air-to-ground guided missile. It was developed on the basis of [the Kh-27PS](#) by the Zvezda Design Bureau (now the Zvezda-Strela State Research and Production Association) jointly with the Sukhoi Design Bureau to arm the Su-7 and Su-17 fighter-bombers since the early 1970s. Tests on the Su-7BM and Su-17M - 1973. Based on the test results, the Su-17M (Kh-25L) was accepted into service. Upgraded

modifications were in service by 1990. The Kh-25MTPL was first mentioned in 1994. It is launched from the APU-68-UM2 (this APU modification is used on the Ka-50 for the Kh-25ML missile). The Kh-25MR missile can be used as an anti-ship missile.



X-25MR missile

Author: [DIMMI](#)

Created: 19.02.2009 00:53:09

Comments: [2](#)

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AS-8 (Shturm-V)

AS-8 - ATGM "Shturm-V"

Airborne anti-tank missile system "Shturm-V". See the relevant [chapter](#) .

Author: [DIMMI](#)

Created: 19.02.2009 00:22:11

Comments: [1](#)

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K-16 / K-11 (AS-5 KELT)

K-16 complex, KSR-2 missile (article 085) - AS-5A KELT

K-11 complex, KSR-11 missile (article 086) - AS-5B KELT

Cruise missile, anti-ship missile, anti-radar missile. It was created on the basis of and as a replacement for [the KS-1](#) in the MiG Design Bureau (KSR-2), later on it was used to create the KSR-11 anti-radar missile of the K-11 complex (A. Berezhnyak Design Bureau - now the Raduga Design Bureau). R & D of the first version of the KSR was started by the Council of Ministers Resolution No. 1781 of April 2, 1956. Tests of the KSR at the Feodosia test site were conducted in June-October 1958. R & D of the modified version of the KSR-2 was started by the Council of Ministers Resolution No. 998-435 of August 22, 1959. The KSR-2 missile was accepted into service by the USSR Council of Ministers Resolution No. 1261-537 of December 30, 1961. Conversion of Tu-16 and Tu-16KS aircraft into the Tu-16KSR was started in February 1962. R & D of the KSR-11 version was started by the Council of Ministers Resolution No. 902-411 of July 20, 1957. The KSR-11 was accepted into service by the Council of Ministers Resolution No. 341-157 of April 13, 1962. The geometric and mass characteristics are practically identical. Based on the KSR missiles, the KRM target missile (product 087) was created and adopted for service by the Council of Ministers Resolution No. 684 of June 19, 1959.



KSR-2 missile under the wing of an Egyptian Tu-16

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X-61 / M-61

X-61 / M-61

Project of a cruise missile by the V.M. Myasishchev Design Bureau for the M-50 (M-52) missile-carrying bomber. R&D - 1960. Tested on a converted 3M bomber.

Speed - supersonic (according to the design)

Range - 1000 km (according to the design)

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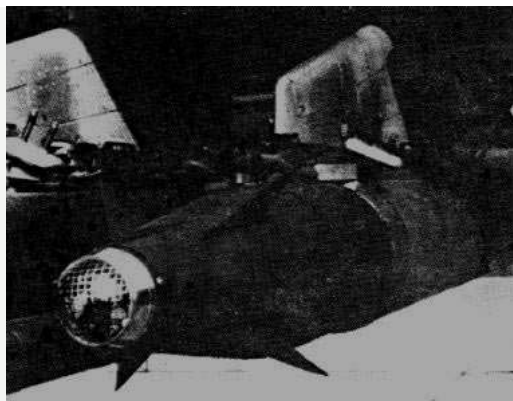
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S-25L / S-25LD

S-25L / S-25LD

Short-range guided missile. Created on the basis of the S-25OFM NUR. Adopted into service and first delivered to troops - 1986-1987. First mentioned in the press - 1992. Launch is carried out from the launch tube - O-25-L. The improved modification S-25LD was first mentioned in the press in 1997.



S-25L missile

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K-12V

Complex K-12V

Anti-ship missile for arming the Be-10 seaplane (late 1950s, it was assumed that the aircraft would carry 2 missiles on hardpoints under the wing). Developed in the Beriev Design Bureau. Not in service (all data as of 1997).

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X-8

X-8 missile (Soviet name)

Guided missile. Developed and tested in the second half of the 1950s. It was used as the basis for the [AA-3](#) air-to-air missile . No other data.

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